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Contrasting the Morbidity Pattern in an African Practice with that in a European General Practice in Salisbury

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INTRODUCTION

In Rhodesia, general practice among Europeans is fairly typical of practice in developed countries, and an analysis of morbidity statistics is fairly easy. In contrast, general practice among the African people in Rhodesia is more typical of developing countries, and with heavier work loads and fewer diagnostic facilities the morbidity picture is blurred. Yet the contrasting patterns in a multiracial society are of great importance epidemiologically and administratively. This is especially so in a developing country such as Rhodesia, which is producing its first medical graduates. For these reasons no apology is made for presenting, as a pilot survey, the contrasting morbidity patterns in two general practices in Salisbury, Rhodesia, even though morbidity statistics, at best unreliable, are particularly unreliable in the case of the African practice.

METHOD

The statistics from the European practice of some 3,500 patients are conventional annual morbidity prevalence rates in persons. The author has indicated the main differences between this practice and that of Fry in a previous article. They were collected retrospectively during the year 1965-66. Full use was made of pathological and radiological adjuncts to diagnosis.

In the African practice the morbidity pattern could only be assessed prospectively over a more limited period. The period was ten weeks divided into a five-week period commencing 1st January, 1968, and a second similar period starting six months later. This was an attempt to eliminate some seasonal influences.

RESULTS

The results obtained from the European practice are shown in Table I. By far the majority

Table I (European Practice)
ANNUAL MORBIDITY PREVALENCE RATES (IN PERSONS)

Rank	Disease Entity	No. of Cases
1	Upper respiratory tract infection and laryngo-tracheitis	1,409
2	Skin disorders	388
3	Emotional disorders	346
4	Musculo-skeletal disorders	287
5	Minor gynaecological conditions (excluding abortions)	247
6	Common digestive disorders	207
7	Pneumonia and acute bronchitis	177
8	Acute diarrhoeas	145
9	Minor trauma	144
10	Major trauma	127
11	Ear infections	103
12	Eye disorders	99
13	Urinary tract infections and venereal disease	94
14	Exanthemata including whooping cough	91
15	Hypertension	85
16	Cerumen auris	65
17	Viral gastritis	56
18	Venous abnormalities	52
19	Obesity	48
20	Stomal and dental infections	46
21	Asthma	39
22	Peptic ulcer	34
	Anaemia	34
23	Chronic bronchitis	25
24	Congestive cardiac failure	23
25	All others (with less than 20 cases each)	302
	TOTAL	4,673

Table II (African Practice)

PERIOD PREVALENCE RATES (IN PERSONS) FOR JANUARY PERIOD AND JULY PERIOD AND ESTIMATED ANNUAL MORBIDITY PREVALENCE RATES (IN PERSONS)

Rank	Disease Entity	Jan.	July	Estimated Annual
1	Upper respiratory tract infection and laryngo-tracheitis	280	519	3,995
2	Minor gynaecological condition (excluding abortions)	362	356	3,590
3	Acute diarrhoeas	287	186	2,365
4	Emotional and undiagnosed disorders	215	243	2,290
5	Urinary tract infections and venereal diseases	218	132	1,750
6	Skin disorders	142	78	1,000
7	Exanthemata including whooping cough	152	46	900
8	Pneumonia and acute bronchitis	60	82	710
9	Malnutrition	67	20	435
10	musculo-skeletal disorders	40	38	390
11	Eye disorders	33	36	345
12	Common digestive disorders	32	35	335
13	Abortions	31	31	310
14	Bilharzia	25	18	215
15	Post-measles debility	32	11	215
16	Ear infections	17	11	140
17	Dental and mouth infections	7	19	130
18	Parasites	17	8	125
19	Anaemia	6	13	95
20	Minor trauma	10	8	90
21	Asthma	13	3	80
22	Major trauma	11	4	75
23	Venous abnormalities	9	4	65
24	Acute gastritis	8	3	55
25	Congestive cardiac failure	7	2	45
	All others (with less than estimated 35 cases annually)	49	19	340
	TOTAL	2,130	1,925	20,275

Table III

RELATIVE MORBIDITY COMPARED WITH RESPECT TO GRADES OF DISEASE

Types of Disease	African Practice Per cent.	European Practice Per cent.
Chronic disease	6.0	9
Major disease	4.5	8
Minor disease	89.5	83
	100.0	100

of doctor-patient contacts were on account of upper respiratory tract infections. Table II shows the results from the African practice. The January and July results are shown separately and are then combined and multiplied by five to give the estimated annual morbidity prevalence rates. Upper respiratory tract infections are again commonest, but by a narrower margin.

Diseases were regrouped in Tables III and IV according to two criteria used by Fry. Grades

Table IV

RELATIVE MORBIDITY COMPARED WITH RESPECT TO SYSTEMS AT FAULT

System	African Practice Per cent.	European Practice Per cent.
Respiratory tract	24.5	36
Gastro-intestinal tract	15	11
Female genital tract	19	5.5
(Emotional)	(11)	7.5
Skin	5	8.5
Urinary tract	10	2.5
Locomotor system	2	6
Cardio-vascular system and blood	0.5	4
Others	13	19
	100.0	100.0

Table V

COMPARISON OF RELATIVE PREVALENCE RATES

Statistically Significantly Higher in European Practice	No Significant Difference	Statistically Significantly Higher in African Practice
Cerumen auris	Anaemia	Abortions
Common bronchitis	Asthma	Acute diarrhoeas
Common digestive disorders	Congestive cardiac failure	Bilharzia
Coronary heart disease	Dental and stomal infections	(Emotional disorders)
Ear infections	Eye disorders	Exanthemata
Hypertension	Parasites	General gynaecological disorders
Major trauma	Pneumonia and acute bronchitis	Malnutrition
Minor trauma		Post-measles debility
Musculo-skeletal defects		
Obesity		
Peptic ulcer		
Skin diseases		
Upper respiratory tract infections		
Venous abnormalities		
Viral gastritis		

of disease are shown in Table III and the system at fault in Table IV. Finally, the prevalence rates relative to the total number of diagnoses made in each practice are compared using X^2. Taking the significance level as .05, the statistically significant results are listed in Table V, together with those diseases tested which showed no difference between the two practices.

VALIDITY OF RESULTS

Both practices are within $1\frac{1}{2}$ miles of each other in the centre of Salisbury. It would appear that both serve the upper middle classes in their differing population groups. It is the opinion of the author that the results obtained from the European practice are no more unreliable than are morbidity statistics generally. However, as has already been pointed out, the statistics from the African practice are unsophisticated. The doctor has less time, no diagnostic facilities apart from clinical knowledge, a population with less insight into their own medical state and a language barrier to cross before reaching his conclusions. The size of the practice in terms of "people at risk" was completely indeterminable, although 12,000 new patients presented annually. The African often consults the witch-doctor as well as or instead of the general practitioner. The African patients can present themselves directly to the nearby teaching hospital, so the doctor with the African practice cannot get such a clear picture of the diseases in his target population as his colleague in the practice serving Europeans. Another reason for this blurring is the fact that many Africans feel free to rotate among the different practitioners at will. About the only factor on the credit side is that delay in presentation to the doctor (for financial or other reasons) on the part of the patient often affords the doctor gross pathology, facilitating some diagnoses.

It is obviously hazardous in the extreme to make any comparisons between the practices. Yet from a pilot survey some pointers for further research are required. Two modifications were made to this end. Firstly, in the African practice some differential diagnoses were impossible to disentangle. An example was venereal disease and urinary tract infections, and these diseases were grouped together and recombined along the same lines in the European practice. Diseases listed as "emotional disorders" in the African practice incorporated up to half which could only be presumed to be psychological in origin. For this reason this disease entity is mentioned in brackets in Tables IV and V. The other modification was to take as the denominator in all comparisons the "total number of cases diagnosed" rather than the more acceptable "population at risk." This is much less accurate, as each disease prevalence affects the total number of cases diagnosed which, when used as the denominator, affects all other prevalences. The comparisons made in terms of grades of disease, systems at fault and relative prevalences are to be viewed with these limitations in mind.

DISCUSSION

Tables I and II show that seven disease entities figured in the "top ten" in both practices. These were acute diarrhoeas, "emotional disorders," minor gynaecological conditions, musculo-skeletal disorders, pneumonia and acute bronchitis, skin disorders and the upper respiratory tract infections. In the African practice urinary tract infections and the exanthemata attained places and failed by a narrow margin in the European practice. Malnutrition was the ninth commonest disease category in the African practice and was not represented in the European practice at all. Conversely, the disease listed only in the top ten in the European practice were common digestive disorders, minor trauma and major trauma ranking twelfth, twentieth and twenty-second in the African practice. The distinction made between minor and major trauma was based on whether sutures or a course of antibiotic therapy were considered necessary. If either was required, the condition was classified as major trauma.

The results grouped in terms of grades of disease (Table III) showed a statistically significant difference between the two practices. In the author's view, there are probably two main factors involved here. The first is that the higher relative prevalence of chronic disease among Europeans is because they are an older population. The other factor is that the African suffering from major diseases would tend to go directly to the hospital. The higher proportion of Africans presenting with minor diseases is probably consequent on these other factors.

The results presented in Table IV were also statistically significantly different in terms of the numbers seen in both practices. As the results are quoted in terms of "numbers of cases" rather than "people at risk," no categorical conclusions can be drawn from Table IV or Table V. In the opinion of the author a variety of pointers do, however, reveal themselves for further research and emphasise the many factors brought into play by morbidity statistics.

For example, the most obvious reason for the discrepancy with hypertension is that of time on the part of the doctor concerned. The discrepancy in terms of wax in the ears is probably due to the sophistication and resources of the patient. Possibly the African with major trauma goes directly to casualty and with minor trauma stays at home. Skin disease, although taking the European to his doctor more often, would probably, on further investigation, reveal a greater degree of severity among the Africans. Similarly, although there is no difference in relative prevalence of "parasitological disease," it is known that more than 50 per cent. of the parasitological disease in the African practice was due to roundworm infestation. Presumably many African families have learnt to ignore their threadworms, a parasite bringing 95 per cent. of the Europeans attending the surgery on parasitological grounds.

It is re-assuring from the statistical point of view that some of the diseases in Table II shown to be differing significantly in prevalence are recognised in Rhodesia as being more generally seen in one racial group. Peptic ulceration and coronary heart disease are the diseases of Rhodesia's Europeans, while the havoc caused by measles, the chief contributor to the "exanthemata" in the African population, is one of the major medical problems of Rhodesia being tackled today.

SUMMARY

Morbidity statistics as a pilot survey are presented from a Rhodesian practice for Europeans and a Rhodesian practice for Africans. Bearing in mind the dangers involved in comparing the results, some of the chief contrasting features are highlighted and fields for future research are indicated.

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